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**Phosphosilicate glass-ceramic used as dental prod. or component - with leucite , other crystal and glass phases, for high strength and chemical resistance**

Patent Assignee: IVOCCLAR AG (IVOC-N)

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Number of Countries: 012 Number of Patents: 011

Patent Family:

| Patent No            | Kind | Date     | Applicat No | Kind | Date     | Week     |
|----------------------|------|----------|-------------|------|----------|----------|
| <del>EP 690030</del> | A1   | 19960103 | EP 95250155 | A    | 19950629 | 199606 B |
| AU 9521761           | A    | 19960125 | AU 9521761  | A    | 19950619 | 199611   |
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| JP 8040746           | A    | 19960213 | JP 95165975 | A    | 19950630 | 199616   |
| CA 2153130           | A    | 19960102 | CA 2153130  | A    | 19950630 | 199617   |
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| DE 59500223          | G    | 19970612 | DE 500223   | A    | 19950629 | 199729   |
|                      |      |          | EP 95250155 | A    | 19950629 |          |
| US 5698019           | A    | 19971216 | US 95497722 | A    | 19950630 | 199805   |
| JP 2703520           | B2   | 19980126 | JP 95165975 | A    | 19950630 | 199809   |
| CA 2153130           | C    | 20000125 | CA 2153130  | A    | 19950630 | 200025   |

Priority Applications (No Type Date): DE 4423793 A 19940701

Cited Patents: EP 272745; FR 2558726; GB 2199027; US 3907577

Patent Details:

| Patent No   | Kind | Lan | Pg | Main IPC    | Filing Notes                     |
|---|------|-----|----|-------------|----------------------------------|
| EP 690030   | A1   | G   | 15 | C03C-010/00 |                                  |
| Designated States (Regional): AT CH DE FR GB IT LI SE |      |     |    |             |                                  |
| CA 2153130  | C    | E   |    | C03C-010/10 |                                  |
| DE 4423793  | C1   |     | 13 | C03C-010/00 |                                  |
| JP 8040746  | A    |     | 11 | C03C-010/10 |                                  |
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| Designated States (Regional): AT CH DE FR GB IT LI SE |      |     |    |             |                                  |
| AU 677122   | B    |     |    | C04B-035/19 | Previous Publ. patent AU 9521761 |
| DE 59500223   | G    |     |    | C03C-010/00 | Based on patent EP 690030        |
| US 5698019  | A    |     | 8  | C03C-010/10 |                                  |
| JP 2703520  | B2   |     | 12 | C03C-010/10 | Previous Publ. patent JP 8040746 |
| AU 9521761  | A    |     |    | C04B-035/19 |                                  |
| CA 2153130  | A    |     |    | C03C-010/10 |                                  |

Abstract (Basic): EP 690030 A

A phosphosilicate glass-ceramic has a leucite crystal phase, at least one other crystal phase, and one or more glass phases, and contains 49.0-57.5 wt.% SiO<sub>2</sub>, 11.4-21.0% Al<sub>2</sub>O<sub>3</sub>, 0.5-5.5% P<sub>2</sub>O<sub>5</sub>, 2.5-11.5% CaO, 9.0-22.5% K<sub>2</sub>O, 1.0-9.5% Na<sub>2</sub>O, 0-2.5% Li<sub>2</sub>O, 0-2.0% B<sub>2</sub>O<sub>3</sub>, 0-3.0% TiO<sub>2</sub>, 0.8-8.5% ZrO<sub>2</sub>, 0-3.0% CeO<sub>2</sub>, 0.25-2.5% F, 0-3.0% La<sub>2</sub>O<sub>3</sub>, 0-3.0% ZnO, 0-3.0% BaO, 0-3.0% MgO and 0-3.0% SrO.

USE - The ceramic is used as (component of) dental material or shaped dental prod., esp. (partial) crowns, bridges, inlays, onlays, artificial teeth, stump constructions or facets. The dental prods. are whole ceramic or metal-ceramic prods..

ADVANTAGE - The ceramic has suitable mechanical, optical, chemical, biological and processing properties, e.g. high strength and chemical resistance.

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Abstract (Equivalent): US 5698019 A

A phosphosilicate glass-ceramic has a leucite crystal phase, at least one other crystal phase, and one or more glass phases, and contains 49.0-57.5 wt.% SiO<sub>2</sub>, 11.4-21.0% Al<sub>2</sub>O<sub>3</sub>, 0.5-5.5% P<sub>2</sub>O<sub>5</sub>, 2.5-11.5% CaO, 9.0-22.5% K<sub>2</sub>O, 1.0-9.5% Na<sub>2</sub>O, 0-2.5% Li<sub>2</sub>O, 0-2.0% B<sub>2</sub>O<sub>3</sub>, 0-3.0% TiO<sub>2</sub>, 0.8-8.5% ZrO<sub>2</sub>, 0-3.0% CeO<sub>2</sub>, 0.25-2.5% F, 0-3.0% La<sub>2</sub>O<sub>3</sub>, 0-3.0% ZnO, 0-3.0% BaO, 0-3.0% MgO and 0-3.0% SrO.

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Title Terms: PHOSPHO; SILICATE; GLASS; CERAMIC; DENTAL; PRODUCT; COMPONENT; LEUCITE; CRYSTAL; GLASS; PHASE; HIGH; STRENGTH; CHEMICAL; RESISTANCE

Derwent Class: D21; L02; P32; P34

International Patent Class (Main): C03C-010/00; C03C-010/10; C04B-035/19

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C03C-003/083; C03C-003/087; C03C-003/093; C03C-003/097; C03C-003/112;

C03C-003/115; C03C-003/118; C04B-035/14; C04B-035/16

File Segment: CPI; EngPI

Manual Codes (CPI/A-N): D08-A03; L01-A08; L02-G03A; L02-J02A

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